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ON THE INTERPRETATION OF A CERTAIN GROUP OF SCULPTURES AT COPAN

By GEORGE BYRON GORDON

In the monograph on the Hieroglyphic Stairway,[1] reference is made to sculptures X and Y as having special interest in connection with a fragment found under peculiar conditions among the ruins of the stairway during its exploration by the Peabody Museum.

Sculpture Y was dug up in 1893 in the great plaza at Copan, at the base of Stela 4, where it had been placed beneath the pavement probably at the time when the stela was set up.

Sculpture X was found, in the following year, a mile to the westward of Stela 4. This stone had served as a pedestal for Stela 5, now fallen and broken. The pedestal was still in place when found. It had been placed about a foot below the pavement of small stones that surrounded the stela.

These two sculptures, of which casts are now in the Peabody Museum, are alike in size and shape, and in the character of the design carved upon them. They measure 3 feet by 4 feet. Sculpture Y is 1 foot 3 inches in thickness, and its companion is somewhat less. The sculpture is in very low relief; it is more crude than that on the better-known monuments, it differs from the latter in technical character, while the conventional design differs from anything found among the Maya ruins, with the single exception of a portion of a similar design found on the underside of a block forming part of a step in the Hieroglyphic Stairway, this block having been cut from a larger piece, and part of the sculpture destroyed.[2] Add to these characteristics the circumstance that they were found under similar conditions, and we may reasonably assume that these three sculptures form a group by themselves, differentiated from all other objects found at Copan, or elsewhere among the Maya cities, by certain peculiarities which they possess in common, and belonging to a period anterior to the era of constructive activity represented by the stelæ and such architectural works as the Hieroglyphic Stairway, and measured according to accepted methods by the dates inscribed upon these monuments. This era, which may be called the later era of the Maya culture, apparently lasted at Copan, according to these dates, about a thousand years. The questions with which we are now concerned are: What is the age of sculptures X and Y relative to the dates of this later era? Can this question be answered by means of the inscriptions on the sculptures themselves?

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[1] *Memoirs of the Peabody Museum, Harvard University*, vol. I, no. 6, p. 19.

[2] *Ibid.*, pl. xiii, U.

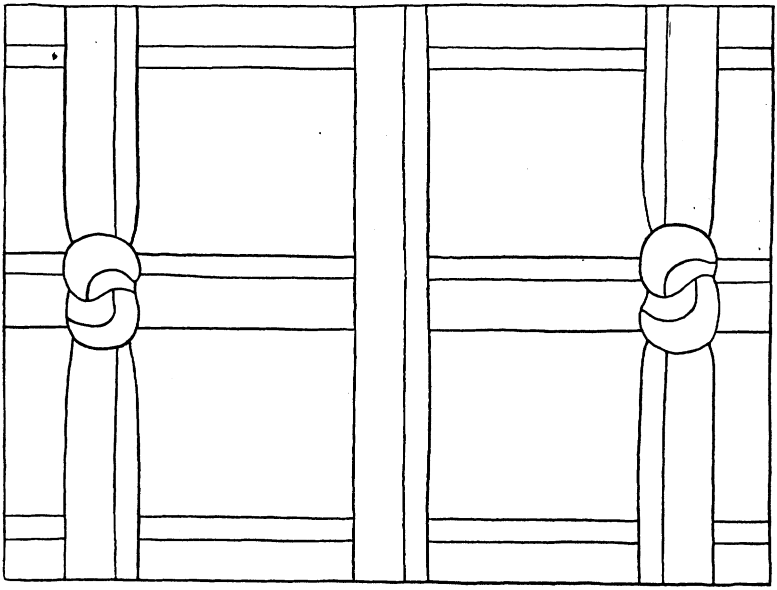

FIG. 6—Top of sculpture Y. (Design of top of sculpture X is identical with this.)

Without giving a definite answer to either of these questions, it is my purpose to offer some suggestions which may afford a possible solution.

The design of sculptures X and Y is as follows: Three bands run transversely across the top, with a longitudinal band in the center. These bands are carried down the vertical sides, and although the bottom is plain, the character of the design shows that they are to be understood as encircling the stone. Two lines are drawn longitudinally near each of the edges, running parallel to the longitudinal band in the center. The top of the stone is thus divided into four equal compartments, which are left plain (fig. 6). The two longer sides are each divided into two equal compartments by the three transverse bands, and each of these is further divided by a horizontal band which passes across each of these sides. Each of these horizontal bands is tied in a knot at the point where it intersects the central transverse band encircling the stone. The other two transverse bands are similarly tied at the points where they intersect the longitudinal band, the ends being carried over and hanging down the sides of the stone, overlying the main part of the band and ending half-way down.

In each of the divisions formed on the sides of the stone by the transverse bands stands a human figure. These personages, which stand facing each other, seem to hold in their hands the ends of the horizontal bands, as if drawing the knots. Each pair might thus be regarded as engaged in tying a knot. On the ends of each stone are sixteen hieroglyphs, disposed in groups of four.

This description applies equally to either of the sculptures X and Y. The main design is simply that of a bundle encircled by four bands, with two other bands on the sides. The most striking feature of the design in question consists of the bands, six in all, several of which have knots tied in them. An element of this sort is of frequent occurrence in the inscriptions at Copan and elsewhere. A good example of the use of this symbol may be seen in fig. 10, C 3. The most remarkable example of the use of the device of the knot is an altar at Copan, which represents a huge knot encircled by a twisted rope (fig. 7). This rope consists of two strands, the turns of which constitute twenty divisions. Although unable to prove it, I would like to suggest that this symbol may mean simply the circle of the Katuns (represented by the rope with its twenty convolutions) completing itself in the Cycle (represented by the knot).[1] My reason for this suggestion will appear later.

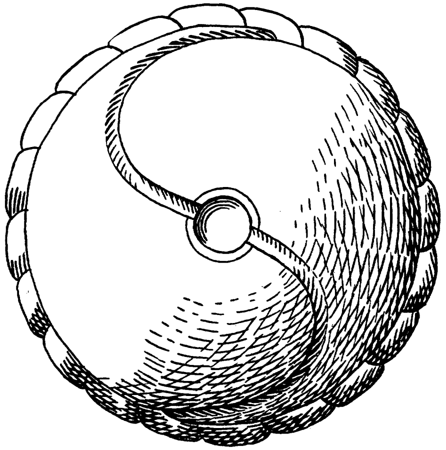
FIG. 7—Round altar in front of Stela 4, Copan.

The significance of the knot symbol as used in the inscriptions and the codices has not been determined, although Dr Förstemann suggests that the name of the 52-year period was represented in the codices pictorially by a character composed in part of a knot or a knotted band. In Mexican picture-writing this period is represented by a bundle of sticks tied with cords, and the name of the period, *Xiuhmolpilli*, means literally "the binding up of the years." While the analogy does not furnish a clue to the meaning of the Maya symbol, it is suggestive.

It is not known what terms were applied by the Mayas to their time periods, and the ordinary symbols used to represent these periods convey to us no idea of these terms. Each of the periods in the inscriptions is distinguished either by a face with which the artists took great liberties, or else by a stereotyped symbol. But whether either of these conveyed the name of the corresponding period, directly or otherwise, it is impossible to say. It may be that the symbols used for the periods in the initial series are not derived from their technical names or intended to suggest these names; but it would be strange if somewhere in the inscriptions symbols were not used which were intended to express, either pictorially or ikonomatically, or phonetically, the technical names of the periods.

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[1] There has been a good deal of speculation and some controversy over the design of this altar. Dr Hamy (*Journal of the Anthropological Institute*, Feb., 1887) finds in it the Chinese Tai-Ki. Dr Brinton attempts to prove its identity with the svastika and the cross, while Mrs Nuttall, in her valuable work, *The Fundamental Principles of Old and New World Civilizations*, assigns to it the character of a cosmical symbolism of elaborate significance.

In the initial series on Stela I at Copan, the head representing the Cycle is surmounted by a knot (fig. 8).

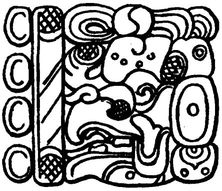


FIG. 8—The Ninth Cycle on Stela I, Copan.

In fig. 9 is shown a small stone pillar or table from Copan, which measures 14 × 14 × 18 inches. On one side it has an inscription (fig. 10). The other three sides are occupied by bands which are to be understood as encircling the stone, and are tied in knots on the side opposite the inscription. The ends of the bands project to the corners of the stone, forming an ornamental border at either edge. It will be seen that there are nine of these bands, a number suggesting at once the ninth Cycle,—the Cycle in which nearly all the dates fall. If, however, a band of this sort meant a completed Cycle, the nine bands would, by representing nine complete Cycles, imply the tenth Cycle; that is to say, the Cycle which, according to Goodman's system, is called Cycle 9.

The inscription on the fourth side of the stone begins with a number made up of Kins, Uinals, and Tuns, and in D I is the date 3 Chuen 4 Pop. Two of the numerals are broken away from A B I, so that it is impossible to read the value of the number expressed ; but since it is less than one Katun, if it gives the distance of 3 Chuen 4 Pop from the beginning of Cycle 9, then that date must be in the beginning Katun of that Cycle, and, indeed, we find it in this position, as follows :

54. 9. 0. 15. 10. 11.

Now, the last three numbers in this series may well have been those given in A B 1. To show how well they fit in the space allowed, the glyphs are reproduced in fig. 11, with these numerals in place.

Moreover, in A 3 we find the Katun sign with the number 1, which may be a declaration that the date is in a first Katun or beginning Katun, for I can see no reason why the beginning Cycle, Katun, Tun, Uinal, and Kin should not have been called the first. Bowditch has pointed out very strong grounds for suspecting that the days of the month were numbered from 0 to 19, but I have seen no such evidence that the same plan was adopted in regard to the periods of the long count. I know of no evidence contrary to the idea that the Mayas, in writing their initial dates, gave each period the number of the current period, *less one;* that is, they wrote against each period the number corresponding to its predecessor in order that these numbers might serve as factors. At the same time, each period may have been spoken of in terms which expressed its exact distance from the beginning of the next higher period; thus, the beginning Katun of a Cycle may

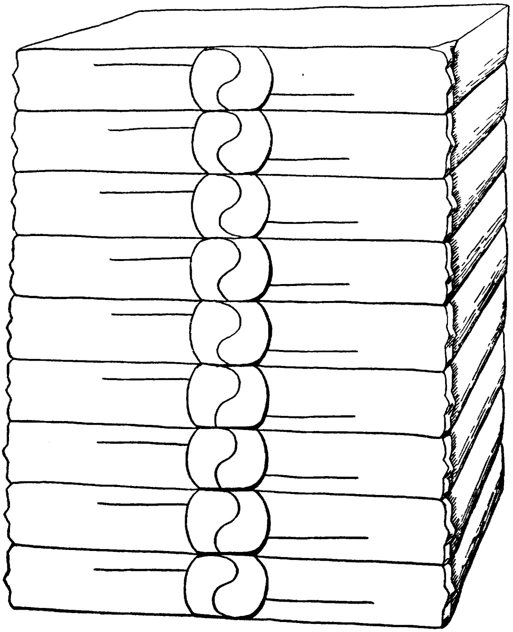


FIG. 9—Small stone pillar from Copan, having an inscription on one side and nine knotted bands about it.

have been called the first Katun of that Cycle, and so on. In the case of Stela C at Quirigua, where the beginning day of the beginning Cycle is given, and the Cycle number is 13, the number may mean that the thirteenth Cycle of the fifty-third Great Cycle is complete. It is obviously immaterial whether we write 54. 0.

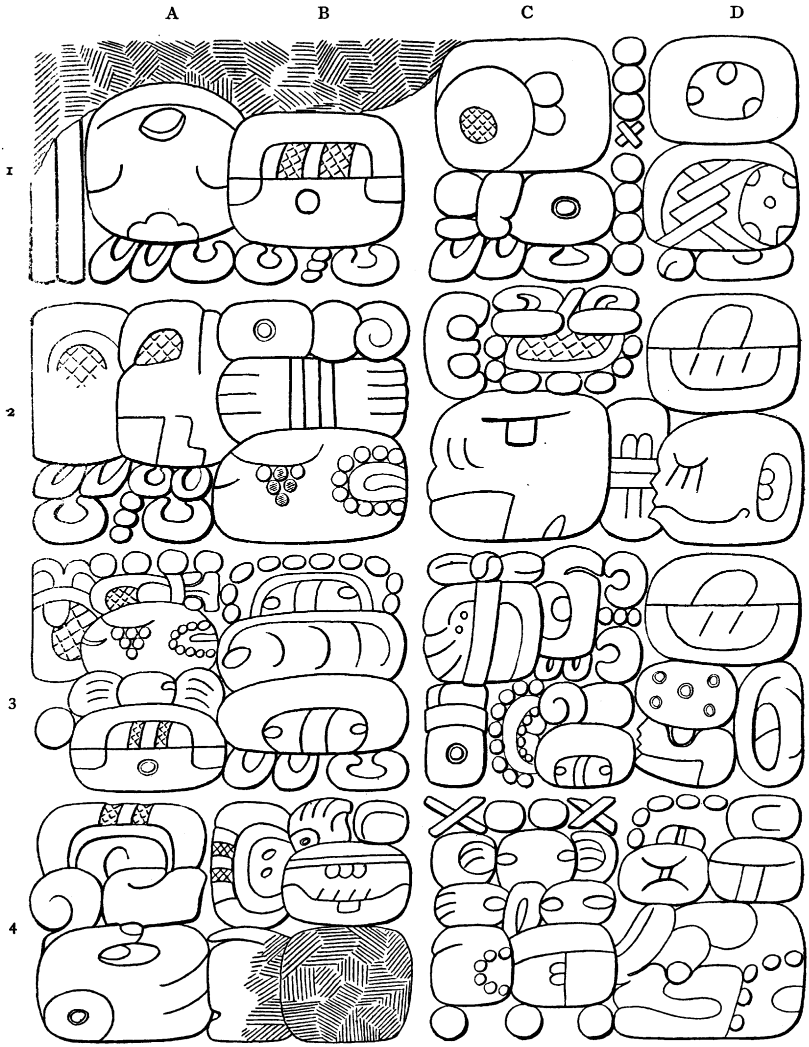


FIG. 10—Inscription on a small stone pillar from Copan.

0. 0. 0. 0 or 53. 13. 0. 0. 0. 0, and so long as the real significance of the beginning glyph is not understood and the method by which the numeration of the Great Cycle is expressed remains unknown, it is not clear that the beginning glyph in this initial series is really the same as that on the opposite side of the same monument. Again, the last glyph on the face of Stela 3 of Piedras Negras might be translated . . . *the fourteenth Katun just completed* or *fourteen Katuns having elapsed.*

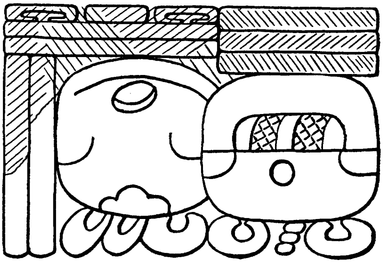


FIG. 11—A B 1 of Inscription shown in Fig. 10, with numerals restored.

Again on the Tablet of the Cross where the initial date is in the fifty-third Great Cycle (Goodman), and farther on the beginning date of the fifty-fourth Great Cycle, 4 Ahau 8 Cumhu, is followed by the Cycle glyph with the number 13, the more likely meaning would seem to be that the thirteenth Cycle, that is to say the last Cycle of the Great Cycle announced in the initial series, is ended.

And again on the Tablet of the Foliated Cross, the second reckoning after the initial date completes two Cycles from the beginning of the Great Cycle, and C D 7 may be translated: *the second cycle is complete.* The same remarks will apply to similar passages in other inscriptions, such as Temple of the Sun Q 15 and Altar S at Copan.

Furthermore, on Stela 8 of Piedras Negras, D 1 C 2 above, is a date which Bowditch, while leaving it open to question, is inclined to interpret as 9 Imix 19 Kayab. The day number seems to me to be 8, and the date 8 Imix 19 Kayab is in the thirty-third year. Now, the chances are very strongly in favor of the dates on this monument being in the ninth Cycle of Great Cycle 54. D 3, following the date is the Katun sign with the number 4. The date is not in Katun 4 of Goodman, but if the beginning

Katun was called Katun 1, then Katun 4 would correspond to Katun 3 of Goodman, and in fact the date occurs in that Katun, its position in the long count being as follows:

54. 9. 3. 4. 3. 1. 8 Imix 19 Kayab.

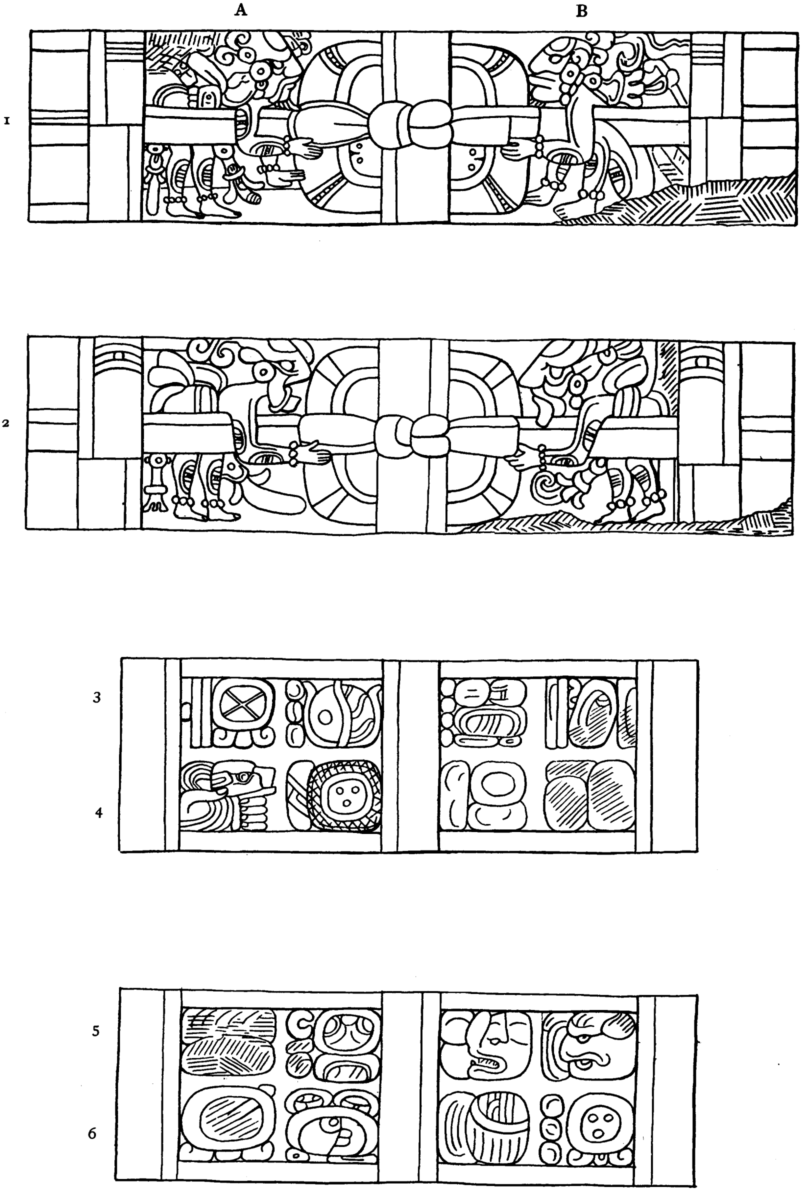
On the lower part of the same Stela, E F 1, is another date. Bowditch, although disposed to regard it as 5 Imix 19 Chen, expresses doubt as to whether the month is Chen or Zac. The reason given by Bowditch for regarding it as Chen is that the date in this case would seem to be referred back to the normal date by the preceding reckoning, but the loss of a portion of this reckoning, as well as the preceding date, makes these relations altogether uncertain, while the month glyph is certainly very much like Zac. 5 Imix 19 Zac is also in the thirty-third year. F 2 following the date is the Katun glyph with the number 1. The date does not fall in Katun 1 of Cycle 9 according to Goodman's method, but it does fall in the beginning Katun of that Cycle. The position of the day in the long count would be

54. 9. 0. 11. 2. 1. 5 Imix 19 Zac.

On Stela 8 of Copan, to cite one more case, is an inscription beginning with the familiar date 6 Caban 10 Mol, and the ninth glyph following may be read fourth Katun. If our theory is correct we might expect to find this date in Katun 3 of the numeration of the initial series, which is the third Katun of Goodman's method. We do find it in that Katun, and the place of this important date in the long count would be as follows:

54. 9. 3. 8. 12. 17. 6 Caban 10 Mol.

All this is in opposition to Goodman's theory respecting the numbering of the Katuns, and would tend to show that the beginning Katun of a Cycle was called the first, or Katun 1. I bring forward these illustrations in order to support the argument that the date 3 Chuen 4 Pop in fig. 10 may be declared by A 3 of that inscription to be in a beginning Katun. It does occur, as we have seen, in the beginning Katun of Cycle 9. It also occurs



RELIEF ON FOUR SIDES OF SCULPTURE X, COPAN again in a beginning Katun after the lapse of 780 years, but in the latter case the distance from the beginning of the Cycle would be 6. 7. 11, which does not agree with the text in A B 1 (a circumstance worth noticing even if we cannot be sure the number is intended to represent that distance). Besides, there is a very strong antecedent probability that the date is in Cycle 9, and finally, that number is indicated by the bands about the stone.

In fact, although it cannot be proved conclusively, there are very strong indications that the date recorded is that expressed by the series 54. 9. 0. 15. 10. 11, and that the Cycle in which it belongs is indicated by nine knotted bands. In that case we would be led to expect to find elsewhere a given Cycle indicated by a number of similar bands corresponding to its numerical denomination in the initial series.

The description given of sculptures X and Y applies to either of these stones. When we come to the minor details we find that they differ in certain of these details and resemble each other in others.

Comparing A 1 in plates XIII and XIV we see that, though very much alike, they present certain differences. The hand which is raised in plate XIV is lowered in plate XIII. The two faces, although they cannot be said to resemble each other very much, have beards in common. But the most important and most striking difference is in the objects in front of the respective figures. The fan-shaped object in plate XIII is replaced in the other by a sort of dragon.

The same facts are brought out by a comparison of B 1 in the two plates. All these figures have peculiar markings on the limbs very much like the figures representing the period numbers in the initial series on Stela D, Quirigua; but it would seem as if the figures in the present case represent not the numbers but the periods themselves.

The figure in A 2, plate XIV has a great curved tooth at the back of the mouth which at once suggests the Uinal head, and the corresponding figure in plate XIII has a similar feature. If these figures represent the Uinal, the figure opposite in each case must represent the Kin. It will be seen that here again the fan-shaped object in front of each of these two figures in plate XIII is replaced in plate XIV by other objects, that in B 2 being partly destroyed.

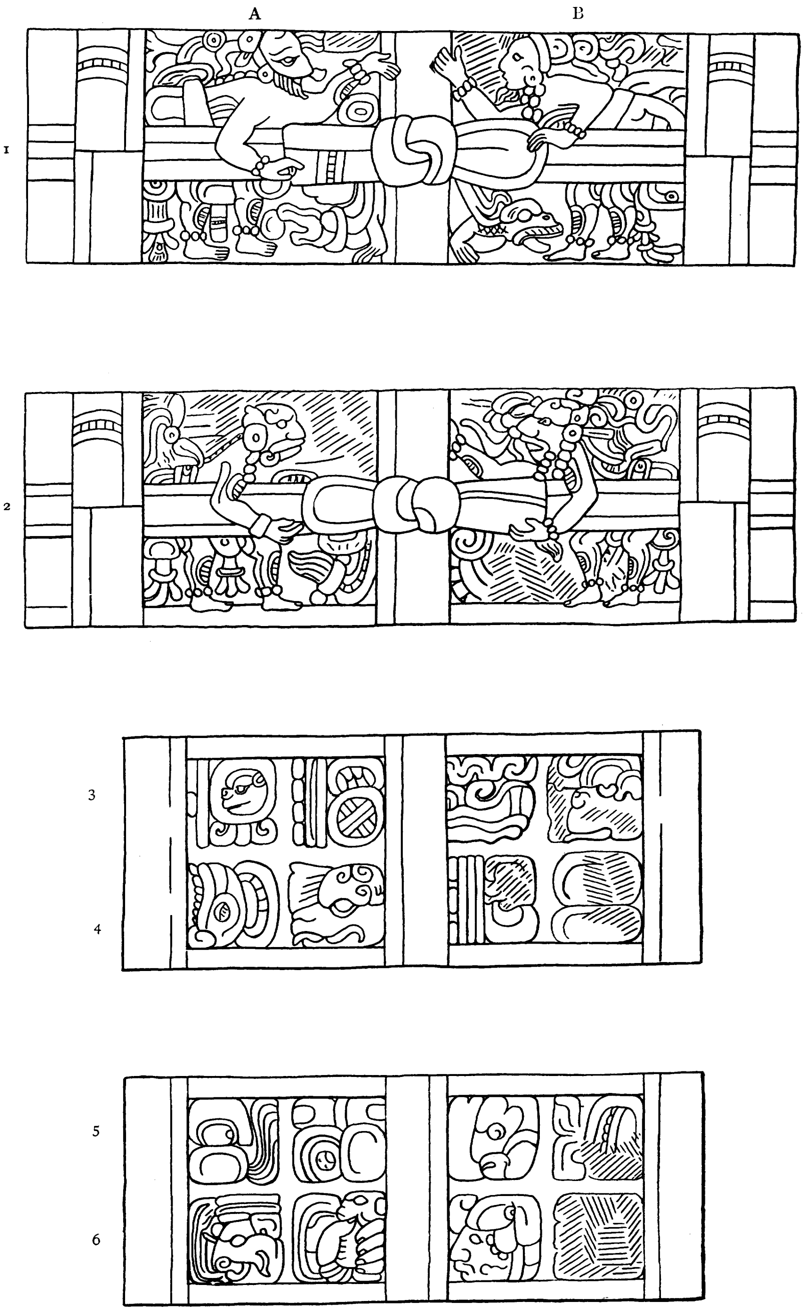
Confining our attention to plate XIII, it will be seen that the symbol occupying the middle of each of the two long sides of the stone between the figures is not unlike the "full count" sign whose numerical value is most conveniently expressed by 0.

The corresponding signs on the other stone, plate XIV, are unfamiliar, and if they are really numerals there is nothing to indicate their values.

Coming to the glyphs on the ends of the stone, we have, on plate XIII, A 3, the date 11 ? 3 Kankin. The day sign is unfamiliar, but it must be either Ahau, Chicchan, Oc, or Men. If it has little resemblance to the first it has less to the other three.

Supposing, then, that A 2 is the Uinal (as the curved tooth or tongue would seem to indicate), that B 2 is the Kin, that A 2 is the Tun and A 1 the Katun, and that the object in the center is 0; then we would have the following series: 0. 0. 0. 0. 11 Ahau 3 Kankin; that is, a full count of Katuns, a full count of Tuns, a full count of Uinals, and a full count of Kins, with the date 11 Ahau 3 Kankin. According to this, the day is the beginning day of some Cycle of some Great Cycle: a day so designated can be the beginning day of a Cycle once in 374,400 years. Referring to Goodman's perpetual calendar we find that this date is the beginning of the sixth Cycle of the fourth Great Cycle.

Now we have noticed that the number of bands on the stone is six and that they divide the top of the stone into four. If, therefore, a band means a complete Cycle, we should expect to find the date 11 Ahau 3 Kankin at the beginning of a Cycle 6 (Goodman's method), which is exactly what we do find. It can



RELIEF ON FOUR SIDES OF SCULPTURE Y, COPAN hardly be said that we should expect to find the date in the fourth Great Cycle. However, this is where it comes, and the number 4 is expressed on the top of the stone by the four divisions. According to these deductions the date on sculpture X would be 4.6.0.0.0.0. 11 Ahau 3 Kankin.

Between this date and the beginning of Cycle 9 of Great Cycle 54, which may be said to correspond with the beginning of the later era,—the era of the stelæ,—there intervenes a period of just 50 Great Cycles and 3 Cycles; in round numbers about 250,000 years according to Goodman's method.

This result is not so satisfactory as it might be, and it would perhaps be more convincing if it did not agree quite so well with our original assumption regarding the relative antiquity of the sculptures. It is evident that the proposition put forward regarding the meaning of the sculpture will require further elucidation before it can be accepted or rejected. It is in the hope that further evidence bearing on the question may be forthcoming that the matter is brought to the attention of students.

When we consider the fact that no change can be detected in the form of the glyphs, and scarcely any in their treatment by the sculptors, between the beginning and the end of the later period, it appears evident that the beginnings were much more remote. During a thousand years,[1] according to the dates at Copan, the

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[1] While writing this paper I have read Mr Bowditch's article *On the Age of Maya Ruins* in the last number of the ANTHROPOLOGIST. The dates on which the figures in that article are based are those which would seem to admit of no dispute, not only in regard to their actual reading but as regards the historical association of the dates with the respective monuments. The figures are therefore the most conservative possible. It should be mentioned, however, in view of the disparity between these figures and those that I give in this paper, that the dates on the Hieroglyphic Stairway are not taken into account in the article in question.

There are two other dates, one at Yaxchilan and one at Quirigua, which, while taking them into consideration and admitting the possibility of their being relative to contemporary history, Bowditch does not allow to enter into his estimate of actual duration on the ground that they may have been traditional.

It will be understood that all estimates of the relative age of Maya monuments are based on the assumption that the dates used as a basis for these estimates reveal glyphs remain uniform and show no measurable change such as would be coëxtensive with the development of the art of writing. It is perfectly evident to anyone who studies the inscriptions bearing dates in the ninth Cycle of the fifty-fourth Great Cycle and later, that there was during this time no transition from one degree of culture to another, at least so far as the art of writing and the methods employed in its transmission are concerned.

It will also be admitted, I think, that this art of writing, used by the Mayas, had passed through many transitions which could not fail to reveal themselves even to those ignorant of the methods employed, before it reached the stage where we make its acquaintance. It would probably take ages to develop such a system, and whether the characters were transmitted to stone or to some material less durable, they could not fail to furnish visual evidence of gradual development or sudden transition. There must have been written records on material of some sort which, if we had them, would illustrate the process by which the hieroglyphics were evolved, and they would of necessity extend over a long period of time, for it is generally agreed that such processes, especially at the beginning, are slow. The period of a quarter of a million years will probably be rejected on the ground that it is altogether too long, but the interpretation of the sculptures which I have suggested need not therefore be discarded since it is quite possi-

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the distance between the starting-point of the time count and the erection of the monuments. While this has not been proved, and while a few of the dates would seem to be certainly traditional, that most of the monuments and their initial dates are correlated would seem almost to be self-evident.

It should be mentioned that the last date on the Hieroglyphic Stairway—the one that introduces the largest time element into my estimate of one thousand years as the duration of the later period at Copan — is partly effaced and may possibly be regarded as admitting an element of doubt. If it should prove that both this date and that given on page 135 of this paper are correctly interpreted, we should have :

Latest date	54. 11. 13. 9. 14. 9
Earliest date	54. 9. 0. 15. 10. 11
Interval	2. 12. 14. 3. 18

equal to almost exactly 1040 years as the duration of what I have called the later period at Copan alone.

ble that changes in the calendar affecting the long count might account for the greater part of this apparently inconsistent period.

The inscriptions on sculptures X and Y are not long enough to provide material for an estimate of the amount of differentiation between these specimens of writing and those of later date, or to show whether or not there is any great divergence in the methods used and the signs employed. There is a visible difference and a very considerable one in the technical treatment of the symbols, and there are some indications of differences in the symbols themselves, but the number of glyphs are too few for satisfactory comparison, and such comparison is made the more difficult by the range of variation in many of the glyphs in contemporaneous inscriptions and the liberties taken in their delineation.

If the meaning which I have suggested for the sculptures on this group of stones be correct, the idea which is expressed would be very obvious. Each sculpture might be regarded as a sort of allegorical representation of the calendar in which the Kins, Uinals, Tuns, and Katuns are portrayed as personages in the act of binding up the years,—in effect making bundles of them; the Cycles being the straps by which they are bound and the Great Cycles being indicated by the principal divisions of the bundle.